freight rates or charges would be affected by the rate proposal.

(c) Respondents shall take a sample of the traffic handled by the study carriers according to acceptable standards of probability sampling principles and practices, and shall explain and evaluate the probability sample from the standpoint of: Purpose, sample design (including explanation of estimation procedure and disclosure of sampling errors for derived characteristics), quality control aspects involved in processing and tabulating data and any statistical analysis performed on the sampled data.<sup>4</sup>

(d) For cost and revenue purposes, the "carried" tariff basis shall be used. "Carried" tariff means the issue traffic handled solely by the study carriers, either single-line or interline. Estimates of current revenues applicable to the issue traffic should reflect all rates and charges in effect no later than 45 days prior to the date of tariff filing.

## §1139.3 Cost study.

(a) The respondents shall submit a cost study. Highway Form B may be used for this purpose. Service unit-costs shall be developed for each individual study carrier, adjusted by size of shipment and length of haul, and shall be applied to respective individual carrier's traffic service units as developed from its traffic study. Operating ratios shall be determined for the issue traffic handled by the study carriers on the ''carried'' basis by individual weight brackets included within the rate proposal, for: (1) The traffic study year, that is, the "base-calendar year—actual," as hereinbefore defined, (2) a 'present proforma year' reflecting conditions prevailing on a date no later than 45 days prior to the date of the tariff filing, and (3) a "restated proforma year" based on conditions anticipated on the effective date of the proposed rates, with a separation indicating projected operating ratios on two bases, namely, "based on current revenues," and "based on proposed revenues". Operating ratios shall also be shown for all other traffic not affected by the rate proposal for the same weight brackets as shown for the issue traffic, but only for the period indicated in paragraph (a)(1) of this section.

(b) In addition to the operating ratios, the cost study shall also be used to develop and provide the revenue-to-cost comparisons required in Appendix I hereto for the same time periods indicated for the operating ratios plus a "restated proforma year" based on constructed revenue need.

(c) For both the operating ratios and the revenue-to-cost comparisons in Appendix I, the "each-to-each" costing method, i.e., the application of each individual study carrier's unit-cost to its traffic service units, applies only to the 'base calendar year-actual." The application of possible labor and nonlabor cost increases for the purpose of updating the "base calendar year-actual" cost data may be accomplished by the use of either individual carrier data for each of the study carriers, or the composite carrier data for those study carriers whose revenue from the issue traffic amount to 50 percent or more of their total system revenues for the "base calendar year—actual." The sample values for expenses and revenues shall be expanded to full year values without adjustments to known annual report figures of any carrier.

(d) Where cost studies are developed through the use of computer processing techniques, there shall be submitted a manual application of the costing procedures used for one traffic and cost study carrier (study carrier) in order to demonstrate the procedures by which the computer program distributes the annual report statistics, and applies service unit-costs to each shipment. An illustration of the application of service unit-costs to the applicable traffic service units generated by one singleline sample shipment and by one interline sample shipment shall also be submitted. These sample shipments shall be on the "Carried" basis.

## §1139.4 Revenue need.

Traffic and cost study carrier, i.e., the study carriers, shall submit evidence of the sum of money, in addition

<sup>&</sup>lt;sup>4</sup>Although not adopted by the Board, attention is called to a staff report, "Guidelines for the Presentation of the Results of Sample Studies," February 1, 1971, available from the Superintendent of Documents.